

File # SAT-MOD-20200221-00017

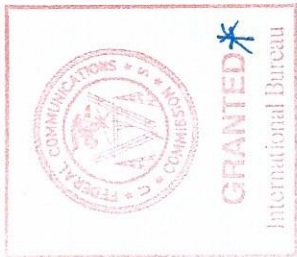
Call Sign S2133 Grant Date April 16, 2020
(or other identifier)

Approved by OMB
3060-0678

Term Dates
From April 16, 2020 To: April 14, 2021

Approved: [Signature]

John W. Whicker
Acting Chief, Policy Branch
Spectrum Policy Branch



Date & Time Filed: Feb 21 2020 5:06:42:973PM
File Number: SAT-MOD-20200221-00017

FCC APPLICATION FOR SPACE AND EARTH STATION:MOD OR AMD - MAIN FORM
FCC Use Only
FCC 312 MAIN FORM FOR OFFICIAL USE ONLY


APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:
Request modification to relocate SPACEWAY 2 (S2133) to 138.9 WL

1-8. Legal Name of Applicant

Name:	DIRECTV Enterprises, LLC	Phone Number:	310-964-4996
DBA Name:		Fax Number:	
Street:	1120 20th Street, NW Suite 1000	E-Mail:	spdulac@att.com
City:	Washington	State:	DC
Country:	USA	Zipcode:	20036
Attention:	Steve Dulac		

ATTACHMENT TO GRANT
DIRECTV Enterprises, LLC
IBFS File No. SAT-MOD-20200221-00017

IBFS File No(s):	SAT-MOD-20200221-00017	<p>GRANTED – With Conditions</p>  <p>International Bureau Satellite Division</p>
Licensee/Grantee:	DIRECTV Enterprises, LLC (DIRECTV)	
Call Sign:	S2133	
Satellite Name:	SPACEWAY 2	
Orbital Location: (required station-keeping tolerance)	138.9° W.L. (\pm 0.05 degrees)	
Administration:	United States of America	
Nature of Service:	Fixed-Satellite Service (FSS)	
Scope of Grant:	Authority to provide FSS via Spaceway 2 at the 138.9° W.L. orbital location instead of its previously authorized orbital location of 99.075° W.L.	
Previous Grants:	Special Temporary Authority for a 60-day period to drift S2133 from 99.075° W.L. to 138.9° W.L. orbital location. IBFS File No. SAT-STA-20200221-00018 (granted Mar. 13, 2020).	
Service Area(s):	Alaska. <i>See</i> Narrative at 3.	
Frequencies:	<p>FSS</p> <p>18.3-18.8 GHz (space-to-Earth)</p> <p>19.7-20.2 GHz (space-to-Earth)</p> <p>28.35-28.6 GHz (Earth-to-space)</p> <p>29.25-30.0 GHz (Earth-to-space)</p> <p><u>Telemetry, Tracking & Command</u></p> <p>19701.75 MHz (space-to-Earth)</p> <p>19702.75 MHz (space-to-Earth)</p> <p>29503.9063 MHz (Earth-to-space)</p> <p>29511.7189 MHz (Earth-to-space)</p>	

Unless otherwise specified herein, operations under this grant must comport with the legal and technical specifications set forth by the applicant or petitioner and with Federal Communication Commission's rules not waived herein. This grant is also subject to the following conditions:

1. DIRECTV shall prepare the necessary information, as may be required, for submission to the International Telecommunication Union to initiate and complete the advance publication, international coordination, due diligence, and notification process of this space station, in accordance with the ITU Radio Regulations. DIRECTV shall be held responsible for all cost recovery fees associated with these ITU filings. We also note that no protection from interference caused by radio stations authorized by other administrations is guaranteed unless coordination and notification procedures are timely completed, or with respect to individual administrations, by successfully completing coordination agreements. Any radio station authorization for which coordination has not been completed may be subject to additional terms and conditions as required to effect coordination of the frequency assignments of other administrations. See 47 CFR § 25.111(b).
2. DIRECTV must operate SPACEWAY 2 at the 138.9° W.L. orbital location in compliance with all existing or future coordination agreements for this location. In the absence of a coordination agreement, such communications must comply with applicable provisions of the ITU Radio Regulations as the Commission cannot guarantee the success of the required coordination.
3. DIRECTV must coordinate its downlink operations for the specific frequencies authorized in the 18.3-18.8 GHz and 19.7-20.2 GHz frequency bands (space-to-Earth) with United States government systems in accordance with footnote US334 to the Table of Frequency Allocation, 47 CFR § 2.106. DirecTV should be aware that there are US Government satellite operations at the 141° W.L. orbital location and

ATTACHMENT TO GRANT
DIRECTV Enterprises, LLC
IBFS File No. SAT-MOD-20200221-00017

- that US334 coordination may not be based on the Commission's two-degree spacing policy.
4. DIRECTV must conduct its operations pursuant to this authorization in manner consistent with the power flux-density requirements of footnote US255 to the Table of Frequency Allocation, 47 CFR § 2.106, 47 CFR § 25.138(a)(6), and 47 CFR § 25.208(d), of the Commission's Rules.
 5. The operations of SPACEWAY 2 and associated earth stations must comport with the applicable uplink and downlink limits in 47 CFR § 25.140(a)(3) of the Commission's rules, unless DIRECTV coordinates any non-conforming operations with the operations of U.S.-licensed geostationary orbit space stations within 6 degrees of the 138.9 W.L. orbital location. DIRECTV must also comport with the maximum power limits indicated in existing or future coordination agreements at 138.9 W.L. orbital location. Non-conforming operation must also be coordinated with respect to those operations of non-U.S.-licensed space stations within 6 degrees of 138.9 W.L. involving approved communications with U.S.-licensed earth stations.
 6. DIRECTV must continue to operate the DIRECTV SPACEWAY 2 space station at the 138.9° W.L. orbital location subject to the conditions in prior grants.
 7. DIRECTV must maintain the DIRECTV SPACEWAY 2 space station at the 138.9° W.L. orbital location with an east/west longitudinal station-keeping tolerance of ± 0.05 degrees.
 8. DIRECTV is granted a waiver of Section 25.283(c) of the Commission's rules, 47 C.F.R. 25.283(c). Section 25.283(c) specifies that space stations must discharge all stored energy sources at end-of-life of the space station. SPACEWAY 2 is a Boeing 702 model spacecraft. DIRECTV has indicated that due to its design, SPACEWAY 2's two helium tanks were sealed immediately following the last orbit-raising maneuver during the launch phase for the satellite and cannot be further discharged. DIRECTV states that each of the sealed helium tanks each contain approximately 510 grams of helium, with each tank volume being approximately 0.0688 m³. Further, DIRECTV states that SPACEWAY 2's two xenon propellant tanks lack the ability to be discharged, which will result in each tank having a residual xenon mass of approximately 5.05 kg at the end-of-life of the space station, with each tank volume being approximately 0.0688 m³.¹ This waiver is granted because modification of the spacecraft would present an undue hardship, since SPACEWAY 2 is an in-orbit space station and venting SPACEWAY 2's helium and xenon tanks would require direct retrieval of the satellite, which is not currently possible. In making this determination, we note that the information submitted in the application is not sufficient to support a finding that the intent of the rule would be satisfied by the described procedures for sealing the helium and xenon tanks.
 9. Within 30 days of completion of the end-of-life maneuvers, DIRECTV must send a letter to the Chief, Satellite Division, International Bureau, indicating the apogee and perigee of the DIRECTV SPACEWAY 2 disposal orbit.
 10. DIRECTV must file with the Commission the information required by section 25.172 of the Commission's rules, 47 CFR § 25.172.
 11. Nothing in this grant changes the license term for the SPACEWAY 2 space station (Call Sign S2133), which expires on April 14, 2021 (see IBFS File No. SAT-LOA-19931203-00041).

Licensee/grantee is afforded thirty (30) days from the date of release of this action to decline the grant as conditioned. Failure to respond within this period will constitute formal acceptance of the grant as conditioned.

This action is taken pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective upon release.

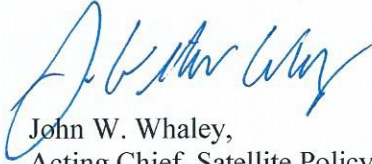
¹ We note that DIRECTV currently intends to allocate and reserve approximately 3.94 kg of propellant for final orbit raising maneuvers for Spaceway 2 to its desired disposal orbit of at least 267.6 km above the geostationary arc, as calculated using the IADC formula. See Engineering Statement at 5.

ATTACHMENT TO GRANT
DIRECTV Enterprises, LLC
IBFS File No. SAT-MOD-20200221-00017

Station licenses are subject to the conditions specified in Section 309(h) of the Communications Act of 1934, as amended, 47 U.S.C. § 309(h).

Action Date:	April 16, 2020	
Term Dates	From: April 16, 2020	To: April 14, 2021

Approved:



John W. Whaley,
Acting Chief, Satellite Policy Branch

9-16. Name of Contact Representative

Name: Jennifer D. Hindin **Phone Number:** 202-719-4975
Company: Wiley Rein LLP **Fax Number:** 202-719-7049
Street: 1776 K St. NW **E-Mail:** jhindin@wiley.law
City: Washington **State:** DC
Country: USA **Zipcode:** 20006-
Attention: **Relationship:** Legal Counsel

CLASSIFICATION OF FILING

17. Choose the button next to the classification that applies to this filing for both questions a. and b. Choose only one for 17a and only one for 17b.

- a1. Earth Station
- a2. Space Station

- (N/A) b1. Application for License of New Station
- (N/A) b2. Application for Registration of New Domestic Receive-Only Station
- b3. Amendment to a Pending Application
- b4. Modification of License or Registration
- b5. Assignment of License or Registration
- b6. Transfer of Control of License or Registration
- b7. Notification of Minor Modification
- (N/A) b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite
- (N/A) b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States
- (N/A) b10. Other (Please specify)
- (N/A) b11. Application for Earth Station to Access a Non-U.S. satellite Not Currently Authorized to Provide the Proposed Service in the Proposed Frequencies in the United States
- (N/A) b12. Application for Database Entry
- b13. Amendment to a Pending Database Entry Application
- b14. Modification of Database Entry

<p>17c. Is a fee submitted with this application? <input checked="" type="radio"/> If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114). <input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee <input type="radio"/> Other (please explain):</p>	
<p>17d. Fee Classification BFY – Space Station Modification (Geostationary)</p>	
<p>18. If this filing is in reference to an existing station, enter: (a) Call sign of station: S2133</p>	<p>19. If this filing is an amendment to a pending application enter both fields, if this filing is a modification please enter only the file number: (a) Date pending application was filed: (b) File number: SATMOD2014102900116</p>

TYPE OF SERVICE

20. NATURE OF SERVICE: This filing is for an authorization to provide or use the following type(s) of service(s): Select all that apply:

- a. Fixed Satellite
- b. Mobile Satellite
- c. Radiodetermination Satellite
- d. Earth Exploration Satellite
- e. Direct to Home Fixed Satellite
- f. Digital Audio Radio Service
- g. Other (please specify)

21. STATUS: Choose the button next to the applicable status. Choose only one.

- Common Carrier
- Non-Common Carrier

22. If earth station applicant, check all that apply.

- Using U.S. licensed satellites
- Using Non-U.S. licensed satellites

23. If applicant is providing INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Choose one. Are these facilities:

- Connected to a Public Switched Network
- Not connected to a Public Switched Network
- N/A

24. FREQUENCY BAND(S): Place an 'X' in the box(es) next to all applicable frequency band(s).

- a. C-Band (4/6 GHz)
- b. Ku-Band (12/14 GHz)

c. Other (Please specify upper and lower frequencies in MHz.)

Frequency Lower: 18300 Frequency Upper: 30000

(Please specify additional frequencies in an attachment)

TYPE OF STATION

25. CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.

- a. Fixed Earth Station
- b. Temporary-Fixed Earth Station
- c. 12/14 GHz VSAT Network
- d. Mobile Earth Station
- e. Geostationary Space Station
- f. Non-Geostationary Space Station
- g. Other (please specify)

26. TYPE OF EARTH STATION FACILITY:

- Transmit/Receive
- Transmit-Only
- Receive-Only
- N/A

"For Space Station applications, select N/A."

PURPOSE OF MODIFICATION

27. The purpose of this proposed modification is to: (Place an 'X' in the box(es) next to all that apply.)

- a --- authorization to add new emission designator and related service
- b --- authorization to change emission designator and related service
- c --- authorization to increase ERP and EIRP density
- d --- authorization to replace antenna
- e --- authorization to add antenna
- f --- authorization to relocate fixed station
- g --- authorization to change frequency(ies)
- h --- authorization to add frequency
- i --- authorization to add Points of Communication (satellites & countries)
- j --- authorization to change Points of Communication (satellites & countries)
- k --- authorization for facilities for which environmental assessment and radiation hazard reporting is required
- l --- authorization to change orbit location
- m --- authorization to perform fleet management
- n --- authorization to extend milestones
- o --- Other (Please specify)

ENVIRONMENTAL POLICY

28. Would a Commission grant of any proposal in this application or amendment have a significant environmental impact as defined by 47 CFR 1.1307? If YES, submit the statement as required by Sections 1.1308 and 1.1311 of the Commission's rules, 47 C.F.R. 1.1308 and 1.1311, as an exhibit to this application. A Radiation Hazard Study must accompany all applications for new transmitting facilities, major modifications, or major amendments.

Yes No

ALIEN OWNERSHIP Earth station applicants not proposing to provide broadcast, common carrier, aeronautical en route or aeronautical fixed radio station services are not required to respond to Items 30-34.

29. Is the applicant a foreign government or the representative of any foreign government?

Yes No

30. Is the applicant an alien or the representative of an alien?

Yes No N/A

31. Is the applicant a corporation organized under the laws of any foreign government?

Yes No N/A

32. Is the applicant a corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?

Yes No N/A

<p>33. Is the applicant a corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned or voted by aliens, their representatives, or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?</p>	<p> <input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N/A </p>
<p>34. If any answer to questions 29, 30, 31, 32 and/or 33 is Yes, attach as an exhibit an identification of the aliens or foreign entities, their nationality, their relationship to the applicant, and the percentage of stock they own or vote.</p>	

BASIC QUALIFICATIONS

<p>35. Does the Applicant request any waivers or exemptions from any of the Commission's Rules? If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.</p>	<p> <input checked="" type="radio"/> Yes <input type="radio"/> No </p>
<p>36. Has the applicant or any party to this application or amendment had any FCC station authorization or license revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission? If Yes, attach as an exhibit, an explanation of circumstances.</p>	<p> <input type="radio"/> Yes <input checked="" type="radio"/> No </p>

<p>37. Has the applicant, or any party to this application or amendment, or any party directly or indirectly controlling the applicant ever been convicted of a felony by any state or federal court? If Yes, attach as an exhibit, an explanation of circumstances.</p>	<p style="text-align: center;"> <input type="radio"/> Yes <input checked="" type="radio"/> No </p>
<p>38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement or any other means or unfair methods of competition? If Yes, attach as an exhibit, an explanation of circumstances</p>	<p style="text-align: center;"> <input type="radio"/> Yes <input checked="" type="radio"/> No </p>
<p>39. Is the applicant, or any person directly or indirectly controlling the applicant, currently a party in any pending matter referred to in the preceding two items? If yes, attach as an exhibit, an explanation of the circumstances.</p>	<p style="text-align: center;"> <input type="radio"/> Yes <input checked="" type="radio"/> No </p>
<p>40. If the applicant is a corporation and is applying for a space station license, attach as an exhibit the names, address, and citizenship of those stockholders owning a record and/or voting 10 percent or more of the Filer's voting stock and the percentages so held. In the case of fiduciary control, indicate the beneficiary(ies) or class of beneficiaries. Also list the names and addresses of the officers and directors of the Filer.</p>	

<p>41. By checking Yes, the undersigned certifies, that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of &quot;party to the application&quot;; for these purposes.</p>	<p style="text-align: right;"> <input checked="" type="radio"/> Yes <input type="radio"/> No </p>
<p>42a. Does the applicant intend to use a non-U.S. licensed satellite to provide service in the United States? If Yes, answer 42b and attach an exhibit providing the information specified in 47 C.F.R. 25.137, as appropriate. If No, proceed to question 43.</p>	<p style="text-align: right;"> <input type="radio"/> Yes <input checked="" type="radio"/> No </p>
<p>42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, what administration has coordinated or is in the process of coordinating the space station?</p>	<p>43. Description. (Summarize the nature of the application and the services to be provided). (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>DIRECTV Enterprises, LLC ('DIRECTV') requests authorization to drift the SPACEWAY 2 satellite to, and operate it at, the 138.9 WL orbital location.</p> </div> <p>Narrative</p>

43a. Geographic Service Rule Certification

By selecting A, the undersigned certifies that the applicant is not subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25.

A

By selecting B, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will comply with such requirements.

B

By selecting C, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will not comply with such requirements because it is not feasible as a technical matter to do so, or that, while technically feasible, such services would require so many compromises in satellite design and operation as to make it economically unreasonable. A narrative description and technical analysis demonstrating this claim are attached.

C

CERTIFICATION

The Applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application. The applicant certifies that grant of this application would not cause the applicant to be in violation of the spectrum aggregation limit in 47 CFR Part 20. All statements made in exhibits are a material part hereof and are incorporated herein as if set out in full in this application. The undersigned, individually and for the applicant, hereby certifies that all statements made in this application and in all attached exhibits are true, complete and correct to the best of his or her knowledge and belief, and are made in good faith.

44. Applicant is a (an): (Choose the button next to applicable response.)

- Individual
- Unincorporated Association
- Partnership
- Corporation
- Governmental Entity
- Other (please specify)

45. Name of Person Signing
Steve Dulac

46. Title of Person Signing
Director, Content Technology & Regulatory Policy

WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT
(U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION
(U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).

FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT

The public reporting for this collection of information is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the required data, and completing and reviewing the collection of information. If you have any comments on this burden estimate, or how we can improve the collection and reduce the burden it causes you, please write to the Federal Communications Commission, AMD-PERM, Paperwork Reduction Project (3060-0678), Washington, DC 20554. We will also accept your comments regarding the Paperwork Reduction Act aspects of this collection via the Internet if you send them to PRA@fcc.gov. PLEASE DO NOT SEND COMPLETED FORMS TO THIS ADDRESS.

Remember – You are not required to respond to a collection of information sponsored by the Federal government, and the government may not conduct or sponsor this collection, unless it displays a currently valid OMB control number or if we fail to provide you with this notice. This collection has been assigned an OMB control number of 3060-0678.

THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104-13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.